

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-10. (canceled)

11. (new) A skin treatment device, comprising:
a body having a first planar surface which is placed against a patient's skin, the first planar surface includes a first area, and includes a second area which defines an aperture adjacent the first area;
a cooling element disposed in the body, said cooling element operating to cool the first area; and
a radiation source disposed in the body, the radiation source positioned to emit radiation through the aperture, whereby radiation energy is applied to the patient's skin.

12. (new) The device according to claim 11, wherein said radiation source comprises an optical chamber configured to emit radiation through said aperture, and an optical fiber entrance in which an optical fiber can be housed to permit tissue-damaging radiation to pass from the optical fiber into the optical chamber.

13. (new) The device of claim 12, further including a window disposed in said optical chamber, such that tissue damaging radiation is transmitted through the window prior to being transmitted through the aperture.

14. (new) The device of claim 11, wherein the aperture is rectangular.

15. (new) The device of claim 11, wherein the aperture is square.

16. (new) The device according to claim 13, wherein the optical chamber comprises light-reflecting walls which help to equalize the fluence of radiation passing through the aperture.

17. (new) The device according to claim 13, further comprising a heating element thermally coupled to the optical chamber so to permit heating of the optical chamber.

18. (new) The device according to claim 11, wherein the aperture has an aperture dimension along a direction of motion, and the first area has a first area dimension along the direction of motion.

19. (new) The device according to claim 18, wherein the first area dimension is at least about two times the aperture dimension.

20. (new) The device according to claim 18, wherein the first area dimension is about equal to the aperture dimension multiplied by a first chosen time interval for cooling the patient's skin, the result divided by a second chosen time interval between applications of the damaging radiation.

21. (new) The device according to claim 13, wherein the window comprises an inner window and an outer, user-replaceable window.

22. (new) The device according to claim 1, wherein the body is a hand-grippable body.

23. (new) A tissue treatment method comprising:
determining a diameter of a structure in a patient's tissue to be treated;
inputting a laser-pulse duration into an input of a tissue treatment device, with the pulse duration that is input being selected in response to the determined diameter of the structure to be treated, the selecting being performed so treatment of a structure having

smaller diameter results in a shorter pulse duration than treatment of a structure having a larger diameter; and

applying laser energy to a treatment area of the patient's tissue, with the tissue treatment device, to cause thermal injury to the structure.

24. (new) The method of claim 23, further comprising:

selecting a size of a treatment area, and varying a lens system to provide a treatment area according the selected size of the treatment area.

25. (new) The method according to claim 23, further comprising the step of selecting a chosen one of a laser-pulse amplitude and a laser-pulse fluence prior to the applying step.

26. (new) The method according to claim 24, further comprising the step of selecting a chosen one of a laser-pulse amplitude and a laser-pulse fluence prior to the applying step.

27. (new) The method according to claim 23, wherein the laser energy applying step is carried out by:

positioning a cooling element of the tissue treatment device against a first target area on the patient's skin;

moving, after a chosen cooling period of time, the cooling element from the first target area to a second target area with a window overlying the first target area;

applying the laser energy to the first target area through the window with the window overlying the first target area.

28. (new) The method according to claim 27, further comprising moving, after the laser energy applying step, the window to overlay the second target area while positioning a second cooling surface against the first target area.

29. (new) The method according to claim 27, wherein the moving step is carried out with the chosen cooling period of time being about 0.25 to two seconds.

30. (new) The method according to claim 27, further comprising the step of selecting a tissue treatment device using laser energy having an average wavelength in the 800 to 1200nm range.

31. (new) The method according to claim 23, further comprising the step of selecting a tissue treatment device using laser energy having a wavelength of about 1.06 microns.

32. (new) The method according to claim 23, wherein the selecting step is carried out so that hair diameters from about 25 to 150 micrometers result in laser-pulse durations of about 5 to 50 milliseconds.

33. (new) A skin treatment device, comprising:

a body having a skin-contacting end;

a skin-cooling element carried by the body and having a cooling surface at the skin-contacting end;

a radiation source carried by the body and positioned to transmit tissue damaging radiation to a patient's skin;

a lens system carried by the body, and positioned between the light radiation source and the patient's skin, such that the tissue damaging radiation is transmitted through the lens system, prior to being incident on the patient's skin, wherein a focal length of the lens system can be varied, whereby a size of a treatment area is varied by changing the focal length.

34. (new) The skin treatment device of claim 33, further including:

a laser supplying laser light to the radiation source for passage through the lens system.

35. (new) The skin treatment device of claim 34, further including:

a laser-power input whereby a user can input a laser-pulse duration.

36. (new) The skin treatment device of claim 34, further including:
a laser-power input whereby a user can input a laser-pulse amplitude.
37. (new) The skin treatment device of claim 34, further including:
a laser-power input whereby a user can input a laser-pulse fluence.
38. (new) The skin treatment device of claim 34, further including:
a laser-power input whereby a user can input a laser-pulse duration, and one of a
laser-pulse amplitude and a laser pulse fluence.
39. (new) The skin treatment device of claim 33, wherein the lens system is laterally
offset from the cooling surface.
40. (new) The skin treatment device of claim 33, wherein the body includes a
viewport which permits viewing of the treatment area.